larger than a dimension of a unit lens #**3** positioned in the center. Also, a dimension of unit lenses #**1** and #**5** positioned at the edges of the five unit lenses may be larger than dimensions of adjacent unit lenses #**2** and #**4**. Further, dimensions of a plurality of unit lenses #**2**, #**3** and #**4** from among the five unit lenses may be the same.

**[0128]** In the case where the number of unit lenses **13***b* corresponding to the red LED **11***r′* is six (i.e., even number), a dimension of the unit lens **13***b* may be different according to positions. For example, a dimension of unit lenses #**1** and #**6** positioned at the edges of the six unit lenses may be larger than dimensions of unit lenses #**3** and #**4** positioned in the center. Dimensions of a plurality of unit lenses #**2**, #**3**, #**4** and #**5** from among the six unit lenses may be the same.

**[0129]** In the case where a plurality of unit lenses **13***b* correspond to one sub pixel **11***r′* (e.g., red LED), a color split, which occurs when only one unit lens **13***b* corresponds to one sub-pixel **11***r′*, may be reduced.

**[0130]** The above-described dispositions of unit lenses **13***b* were described taking an example of a width direction (e.g., x axis direction). However, it would be easily understood by one of ordinary skill in the art that the same may apply to a height direction (e.g., z axis direction) of the LED **11**.

**[0131]** The description of the sub-pixels, the red LED **11***r′*, the green LED **11***g′*, and the blue LED **11***b′* corresponding to a triangle-shaped unit lens **13***b* of FIG. **5**B will be omitted herein, since it is substantially similar (i.e., only a shape of unit lens is different) to the description of the sub-pixels, the red LED **11***r*, the green LED **11***g*, and the blue LED **11***b* of FIG. **5**A.

**[0132]** Referring to FIG. **5**C, an LED **11**, i.e., a full pixel, may be implemented with a plurality of sub-pixels, e.g., a red LED **11***r′*, a green LED **11***g′*, and a blue LED **11***b′*.

**[0133]** An optical element **13** may correspond to each of the red LED **11***r″*, the green LED **11***g″* and the blue LED **11***b″*, i.e., sub-pixels, may be implemented. The red LED **11***r″*, the green LED **11***g″* and the blue LED **11***b″* may be positioned to correspond to a triangle-shaped unit lens **13***c* that has round corners and is repetitively formed on the optical element **13**.

**[0134]** A plurality of triangle-shaped unit lenses **13***c* having round corners may correspond to one sub-pixel **11***r″* (i.e., red LED).

**[0135]** A width **11***r″* of a red LED **11***r″* may be, for example, 300 μm. A width **12***r″* (or pitch) of a triangle-shaped unit lens **13***c* of the optical element **13** may vary according to exemplary embodiments. For example, the width **12***r″ may* be less than or equal to ⅙ of the width **11***r″* of the red LED **11***r″*. For another example, the width **12***r″* of the unit lens **13***c* may be less than or equal to ⅕ of the width **11***r″* of the red LED **11***r″*. As a result, for example, the width **12***r″* of a unit lens **13***c* may be in the range of 20 μm to 50 μm.

**[0136]** A width **11***g″* of a green LED **11***g″* may be, as a non-limiting example, 300 μm. A width **12***g″* of a unit lens **13***c* of the optical element **13** may vary according to exemplary embodiments. For example, the width **12***g″* may be less than or equal to ⅙ of the width **11***g″* of the green LED **11***g″*. Further, a width **12***g″* of a unit lens **13***c* may be less than or equal to ⅕ of a width **11***g″* of a green LED **11***g″*. As a result, for example, the width **12***g″* of a unit lens **13***c* may be in the range of 20 μm to 50 μm.

**[0137]** A width **11***b″* of a blue LED **11***b″* may be, as a non-limiting example, 300 μm. A width **12***b″* of a unit lens **13***c* of the optical element **13** may vary according to exemplary embodiments. For example, the width **12***b″* may be less than or equal to ⅙ of the width **11***b″* of the blue LED **11***b″*. For another example, the width **12***b″* of the unit lens **13***c* may be less than or equal to ⅕ of a width **11***b″* of the blue LED **11***b″*. As a result, for example, the width **12***b″* of a unit lens **13***c* may be in the range of 20 μm to 50 μm.

**[0138]** A unit lens **13***c* of the optical element **13** may be repetitively formed to correspond to a dimension (e.g., width×length (height)) of an LED module **10**.

**[0139]** A pitch between unit lenses **13***c* of the optical element **13** may be formed to correspond to a pitch between the sub-pixels, i.e., the red LED **11***r″*, the green LED **11***g″*, and the blue LED **11***b″*. For example, a pitch between a plurality of triangle-shaped unit lenses having round corners which correspond to the red LED **11***r″* and a plurality of triangle-shaped unit lenses having round corners which correspond to the green LED **11***g″* may be formed to correspond to a pitch between the red LED **11***r″* and the green LED **11***g″*. Likewise, a pitch between a plurality of triangle-shaped unit lenses having round corners which correspond to the green LED **11***g″* and a plurality of triangle-shaped unit lenses having round corners which correspond to the blue LED **11***b″* may be formed to correspond to a pitch between the green LED **11***g″* and the blue LED **11***b″*. Also, a pitch between a plurality of triangle-shaped unit lenses having round corners which correspond to the blue LED **11***b″* and a plurality of triangle-shaped unit lenses having round corners which correspond to the red LED **11***r″* may be formed to correspond to a pitch between the blue LED **11***b″* and the red LED **11***r″*.

**[0140]** According to another exemplary embodiment, a pitch between unit lenses **13***c* of the optical element **13** may be formed to correspond to a pitch between an LED **11**, which is a full pixel, and another adjacent LED. For example, a pitch between a plurality of unit lenses corresponding to one LED **11** and a plurality of unit lenses corresponding to the next LED may be formed to correspond to a pitch between one LED **11** and a next LED positioned in a traverse direction (e.g., x-axis direction). Likewise, a pitch between a plurality of unit lenses corresponding to one LED **11** and a plurality of unit lenses corresponding to the next LED may be formed to correspond to a pitch between one LED **11** and a next LED positioned in a longitudinal direction (e.g., z axis direction).

**[0141]** According to another exemplary embodiment, a dimension (e.g., height, width or area) of a unit lens **13***a* of the optical element **13** may be formed differently according to a pitch between the red LED **11***r″*, the green LED **11***g″* and the blue LED **11***b″*, i.e., sub-pixels.

**[0142]** In the case where the number of unit lenses **13***c* corresponding to one red LED **11***r″* is five (i.e., odd number), a dimension of the unit lens **13***c* may be different according to positions. For example, a dimension of unit lenses #**1** and #**5** positioned at the edges of the five unit lenses may be larger than a dimension of a unit lens #**3** positioned in the center. Also, a dimension of unit lenses #**1** and #**5** positioned at the edges of the five unit lenses may be larger than dimensions of adjacent unit lenses #**2** and #**4**. Further, dimensions of a plurality of unit lenses #**2**, #**3** and #**4** from among the five unit lenses may be the same.